

IN THE CLAIMS:

The attached listing of claims replaces all prior claims in the application:

Listing of Claims

1. (Cancelled)
2. (Currently Amended) A The communication system according to claim ~~±~~ 11 characterized in that the control information acquisition means and the ~~one or more~~ direction means corresponding to the ~~one or more~~ communication protocol modules are connected through a parallel bus.
3. (Currently Amended) A The communication system according to claim ~~±~~ 11 characterized in that each of the ~~one or more~~ communication protocol modules ~~constituted~~ are constructed and arranged for ~~each of~~ processing categories of the control information.

4. (Currently Amended) ~~A~~ The communication system according to claim ~~±~~ 11 characterized in that:

the memory has a control space for temporarily storing control information from the control device to the ~~one or more~~ protocol modules and a status space for the temporarily storing status information from the ~~one or more~~ protocol modules to the control device, and ~~that~~

the control device writes the control information into the control space of the memory and reads the status information from the status space of the memory.

5. (Currently Amended) ~~A communication system according to claim 4 characterized in that:~~ A communication system comprising a control device, a plurality of communication terminals, and a communication device which connects the control device with the plurality of communication terminals and has a plurality of communication protocol modules for controlling communications of the plurality of communication terminals based on control information from the control device, the communication device including:

a memory which temporarily stores the control information sent sequentially from the control device;

control information acquisition means which sequentially acquires the control information temporarily stored in the memory and broadcasts it to the one or more communication protocol modules;

a plurality of detection means each being provided in correspondence with each of the plurality of communication protocol

modules at a front stage on an input side of each of the communication protocol modules for detecting whether the control information broadcasted by the control information acquisition means needs to be processed by the plurality of communication protocol modules;

the plurality of communication protocol modules implement processing of the control information if a corresponding one of the plurality of detection means detect that the control information is meant to be processed by a communication protocol module;

the memory having a control space for temporarily storing control information from the control device to the protocol modules and a status space for temporarily storing status information from the protocol modules to the control device;

the control device writes the control information into the control space of the memory and reads the status information from the status space of the memory;

the control information written to the control space is ~~comprised~~ of includes a command number and command data[[],]; and ~~that~~

the control device temporarily stores at least a pair of the command number and the command data in the memory sequentially.

6. (Currently Amended) A The communication system according to claim 5 characterized in that:

the control space is comprised of a command space which consists of pairs of the command number and the command data both made up of a fixed unit of information and a data space for temporarily storing the command data if the command data exceeds the fixed unit of information and a data space for temporarily storing the command data if the command data exceeds the fixed unit of information, and that:

the control device, if the command data exceeds the fixed unit of information, writes information corresponding to an address within the data space where the command data is temporarily stored, instead of the command data that pairs with the command number, and also writes to a head of the command data stored in the data space information corresponding to a data length in the fixed unit of information, in which a content of the command data is temporarily stored.

7. (Currently Amended) A The communication system according to claim 6 characterized in that:

the information which corresponds to the address written in the fixed units of information and the information which corresponds to the data length, both are a virtual address or a virtual data length formed by shifting values by a fixed amount, and ~~that:~~

the control device processes the virtual address or the virtual data length as an address or a data length that was reverse shifted by a fixed amount.

8. (Currently Amended) A The communication system according to claim 2 characterized in that each of the ~~one or more~~ communication protocol modules is ~~constituted~~ constructed and arranged for ~~each of~~ processing categories of the control information.

9. (Currently Amended) A The communication system according to claim 2 characterized in that:

the memory has a control space for temporarily storing control information from the control device to the ~~one or more~~ protocol modules and a status space for temporarily storing status information from the ~~one or more~~ protocol modules to the control device, and ~~that:~~

the control device writes the control information into the control space of the memory and reads the status information from the status space of the memory.

10. (Currently Amended) ~~A~~ The communication system according to claim 3 characterized in that:

the memory has a control space for temporarily storing control information from the control device to the ~~one or more~~ protocol modules and a status space for temporarily storing status information from the ~~one or more~~ protocol modules to the control device, and ~~that~~:

the control device writes the control information into the control space of the memory and reads the status information from the status space of the memory.

11. (New) A communication system comprising a control device, a plurality of communication terminals and a communication device which connects the control device with the plurality of communication terminals and has a plurality of communication protocol modules for controlling communications of the plurality of communication terminals based on control information from the control device;
- the communication device including,
- a memory which receives the control information sent from the control device and stores the received control information sequentially and in parallel form;
- control information acquisition means for sequentially acquiring from the memory the temporarily stored control information and broadcasting the control information to the plurality of communication protocol modules on a parallel bus;
- a plurality of detection means each corresponding to an associated one of the plurality of communication protocol modules at a front stage on an input side of each of the communication protocol modules for detecting whether the control information broadcasted by the control information acquisition means needs to be processed by at least one of the communication protocol modules; and
- at least one of the communication protocol modules implements processing of the control information if a corresponding one of the detection means detect that the control information is meant to be processed by the corresponding communication protocol module.

12. (New) The communication system according to claim 11 characterized in that:

the control information written to the control space includes a command number and command data; and

the control device temporarily stores at least a pair of the command number and the command data in the memory sequentially.

13. (New) The communication system according to claim 12 characterized in that:

the control space is comprised of a command space which consists of pairs of the command number and the command data both made up of a fixed unit of information and a data space for temporarily storing the command data if the command data exceeds the fixed unit of information and a data space for temporarily storing the command data if the command data exceeds the fixed unit of information, and

the control device, if the command data exceeds the fixed unit of information, writes information corresponding to an address within the data space where the command data is temporarily stored, instead of the command data that pairs with the command number, and also writes to a head of the command data stored in the data space information corresponding to a data length in the fixed unit of information, in which a content of the command data is temporarily stored.

14. (New) The communication system according to claim 13 characterized in that:

the information which corresponds to the address written in the fixed units of information and the information which corresponds to the data length, both are a virtual address or a virtual data length formed by shifting values by a fixed amount, and

the control device processes the virtual address or the virtual data length as an address or a data length that was reverse shifted by a fixed amount.